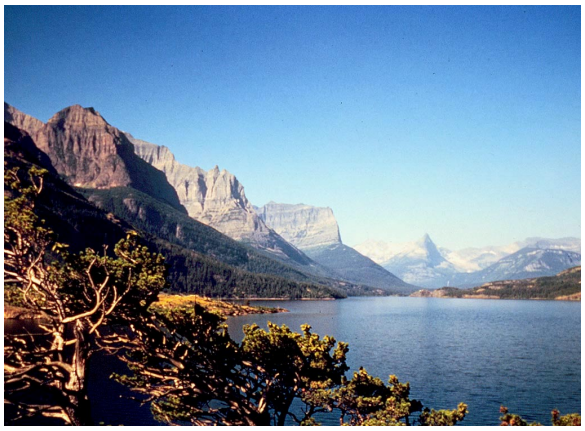
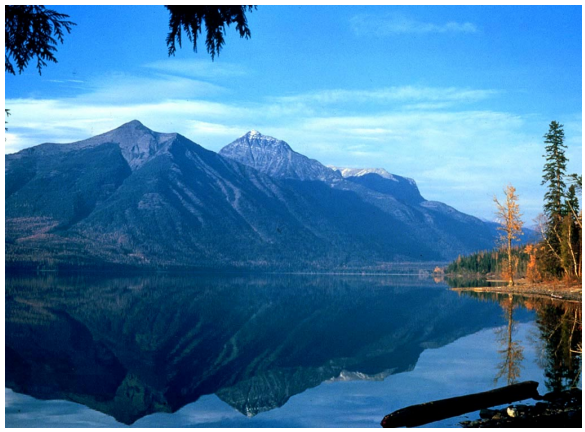
Report
Glacier National Park

1.0 Site Description

Glacier National Park is located in northwestern Montana in the U.S.-Canadian border. The Park encompasses over one million acres of breathtaking mountain scenery (see Figure 1). Its sculptured peaks and crystal-clear lakes are remnants of the extensive glaciation of the last ice age with nearly 40 active glaciers remaining. Created in 1910, Glacier National Park provides over one million acres of habitat and protection for a variety of wildlife and wildflowers. Historic lodges preserve the ambience of 19th century travel for 20th century visitors. In 1932, largely through the work of the Rotary Clubs of Alberta and Montana Rotary International, the Canadian Parliament and the United States Congress designated Waterton Lakes and Glacier National Parks as units of Waterton-Glacier International Peace Park. The designation was established to foster the long relationship of peace and goodwill between Canada and the United States.

Figure 1. Views of St. Mary Lake (Left) and Lake McDonald (Right)

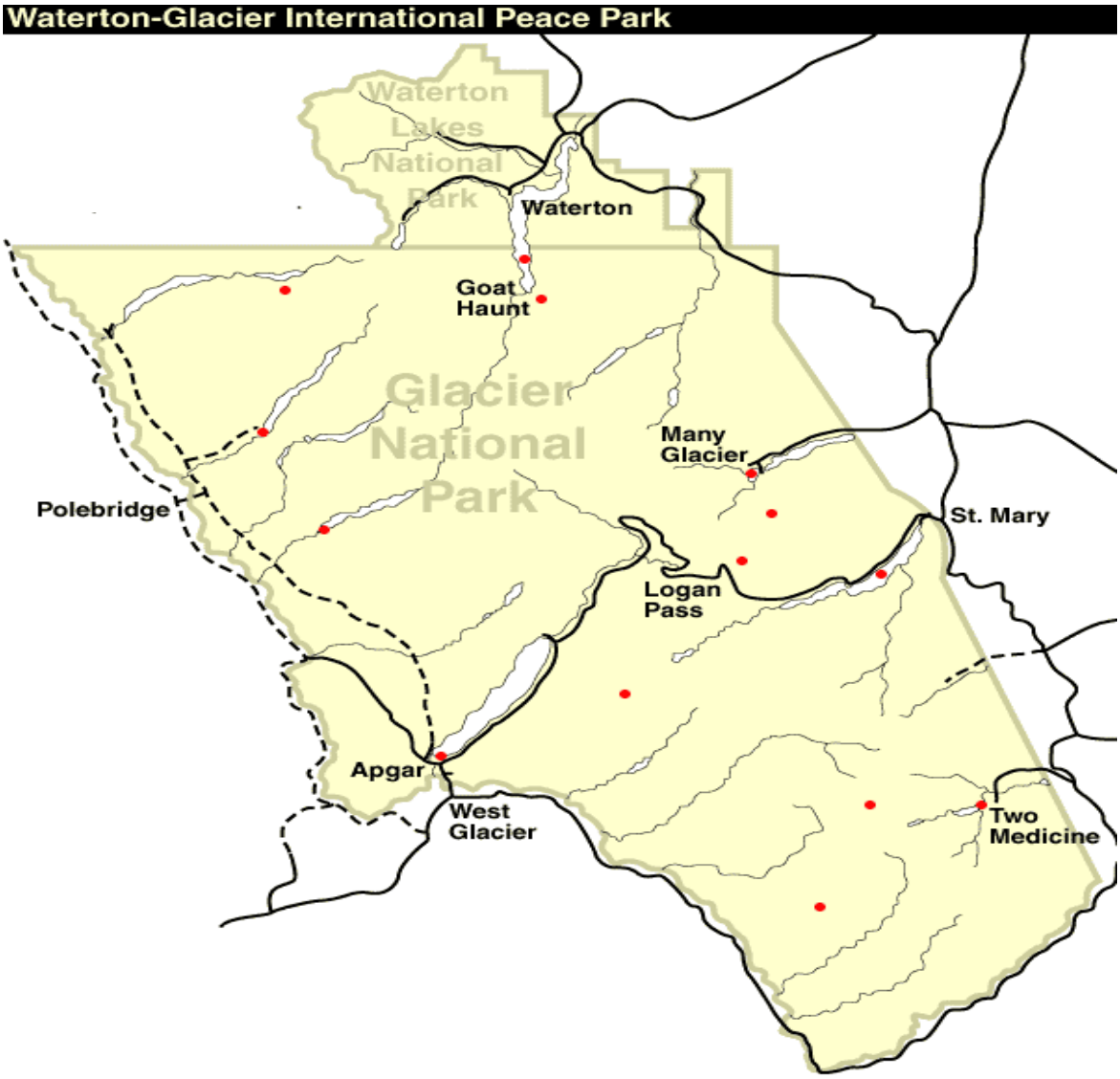




U.S. Highway 2 traverses the southern boundary of the Park and is inside the Park boundary for about four miles near Goat Lick and the Walton Ranger Station. There are several access roads on the eastside. These roads connect with either Highway 49 or 89 and are maintained by the NPS. Going-to-the-Sun Road is the only through road across the Park connecting Lake McDonald on the west with St. Mary to the east (see Figure 2). It is one of the most visited amenities. Each year, nearly two million visitors drive the 52 miles over the Continental Divide across Logan Pass. It is the only way to access many of the Park's other attractions. In 1983, the road was placed on the National Register of Historic Places in recognition of its significance as a historic and cultural feature. In 1985, it was declared a National Historic Civil Engineering Landmark, and in 1997, it was

designated as a National Historic Landmark. The road bisects the heart of Glacier and winds 52 miles up and over the Continental Divide across Logan Pass. Sections of the road are narrow and windy. Vehicles longer than 21 feet or wider than eight feet (including mirrors) are prohibited on the steepest portions of the road. Numerous scenic turnouts and wayside exhibits allow visitors to stop and enjoy the Park at their own pace. In July and August, the Going-to-the-Sun Road approaches its peak capacity. Traffic is congested, and the demand for parking and pullouts often exceeds available spaces. In 1994, a visitor use study showed that 43 percent of summer visitors felt that traffic congestion and parking shortages detracted from their visits, and many felt that this was unacceptable. Furthermore, the General Management Plan (GMP) has cited a need to protect the environmentally sensitive areas of the road and to retain its historic character while allowing visitors to continue to drive their private automobile.

Figure 2. Map of Glacier National Park



The Park is open year-round, 24 hours a day. However, because of the winter weather and limited visitation, most Park services and facilities are available from late May through September. The Park charges an entrance fee of $5.00 per person and $10 per vehicle (valid for seven days). It has 735 miles of maintained trails, 60 backcountry campgrounds and 13 auto campgrounds containing over 1,000 sites. The surrounding communities provide lodging, dining and other visitor services year-round. The unsurpassed scenery of the Park attracts almost two million visitors each year to northwestern Montana and is estimated to generate over $1 million a day to the local economy during the summer. Many visitors are increasingly finding the "off season" (fall, winter and spring) a rewarding time to visit. Less crowded conditions and increased opportunities for wildlife sightings are just a few of the benefits.

In 1997, approximately 1.7 million visitors visited Glacier National Park. About 60 percent of visitors to the Park enter through the west entrance at West Glacier or at the Apgar Visitor Center. Approximately 30 percent enter on the eastside at St. Mary, and the rest are evenly divided among Many Glacier and Two Medicine on the east, and Polebridge on the west. In 1911 (the first year statistics were recorded), 4,000 visitors visited Glacier. In 1933 when the Going-to-the-Sun Road opened, some 77,000 visitors were counted. By the end of World War II, more than 200,000 visitors (1946) visited the Park. The highest recorded visitation, 2,204,131, was in 1983. Since then, Park visitation has exceeded two million only four times. In recent years visitation has ranged between 1.7 to 1.8 million. Visitation has been up and down over the years, but the overall trend is projected to increase.

Visitors come to Glacier for a variety of reasons. A 1991 visitor survey found that 65 percent of those surveyed came to view scenery and wildlife, and 18 percent were looking for recreational opportunities such as hiking, fishing, and biking. Another 11 percent were just passing through on their way to another primary destination. Those surveyed said they were participating in a variety of activities during their stay. The most frequently mentioned activities by all respondents were sightseeing, photography, wildlife viewing, day hiking, stopping at Visitor Centers, camping, taking part in guided activities, and picnicking. The 1991 survey also found that most of the Park's visitors were family groups (71 percent) or family and friends traveling together (17 percent); nine percent were traveling alone. Of the visitors contacted, 84 percent were from the United States (13 percent from Montana), 12 percent from Canada, and four percent from other countries. Forty percent of all visitors reported that they would spend less than one day in the Park, while 33 percent would stay one to three days and 27 percent would stay four or more days.

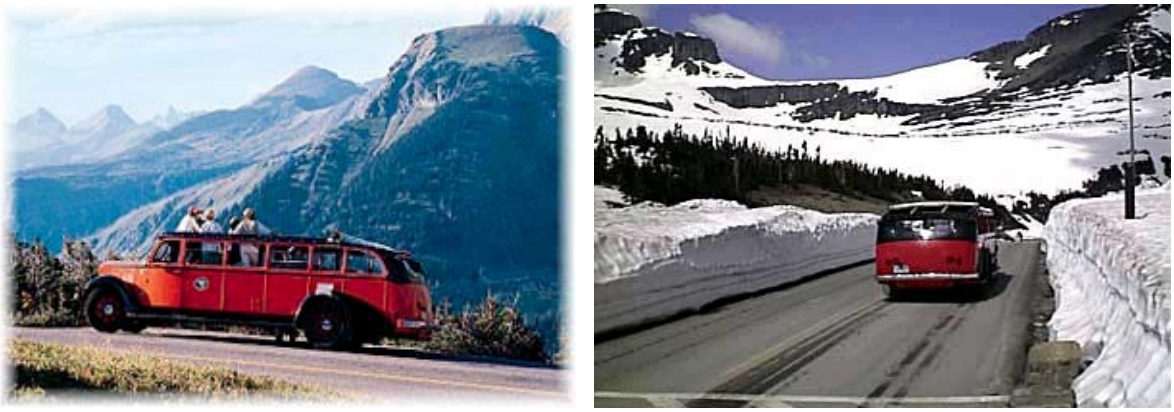
A transportation issue identified is the increasing congestion on Park roads. Use has increased from fewer than 40,000 cars in 1933 to over 660,000 cars annually today. Traffic volumes on Highway 2 have increased two to three times from 1980 to 1995. While some of this increase may be due to population growth, a portion of the increase relates to growth in recreational travel in the region. Increased traffic volume causes crowding at pullouts and parking areas along the road. Visitors who are frustrated by the lack of parking and who want to stop to experience the Park, pull off and park in undesignated areas, causing resource damage and safety problems. Increasing numbers of bicycles and automobiles have also presented a safety concern. A challenge for the Park is to manage visitor use while maintaining both the traditional driving experience and the historic character of the road. Another transportation issue is the proposed banning of personal

watercraft from all waters in the Park (as proposed in the GMP). This alternative would preserve the natural quiet and opportunity for solitude on all Park waters. However, the Park will need to examine the accessibility and availability of alternative waterborne transportation for Park visitors.

2.0 Existing ATS

Public transportation has been available in the Park since the first hotels were built. This culminated in the historic red bus fleet in the 1930s (see Figure 3). Glacier Park, Inc. is currently the primary concessionaire and has the right to provide all transportation services in the Park. Glacier's fleet of sedans is the largest and oldest continually operating fleet of remaining White coaches (although painted a bright red color, some old-timers still refer to the sedans as "White buses"). The open-air red buses have served as the Park's major transportation system, allowing visitors to travel from one side of the Park to the other along the Going-to-the-Sun-Road and up north to Canada's Waterton Lakes National Park. They also linked all of the famous and historic lodges such as the Lake McDonald Lodge Complex, Many Glacier Hotel, Glacier Park Lodge and the Prince of Wales Hotel. Originally built by the White Motor Company, the 25-foot-long, 16-passenger sedans were built of oak and covered with a metal skin. While the entire fleet of 33 (1931-1937) sedans was completely renovated at a cost of $800,000 in 1989, time and metal fatigue have taken their toll. In recent years, safety inspections revealed cracks in some of the bus frames and forced a midsummer (1999) withdrawal of the red buses that have served as the Park's major transportation system since 1935. The popular interpretive tours through and around the Park continued for the balance of the year's season with modern 15-passenger vans that operate from West Glacier to St. Mary. The service extends from 6:00 a.m. to 11:00 p.m. and is demand response. But the red bus fleet owners are hoping to return the famous red buses back on the road sometime in 2001.

Figure 3. Red Bus (Left) and Red Bus at Logan Pass (Right)



Currently, as a result of the sudden withdraw of the red buses, approximately 30 modern 15-passenger vans make up the shuttle fleet. The majority of the service is demand

response, with visitors or tour groups telephoning in to schedule a ride. A scheduled service is planned in the future with five vans leaving both West Glacier and St. Mary in staggered at 8:00 a.m.

Amtrak also provides service to East Glacier and West Glacier twice a day. There is a station approximately a quarter-mile away from the Park entrance at West Glacier. Visitors can also fly into the Glacier Park International Airport near Kalispell. However, once Park visitors arrive, they must make other ground transportation arrangements, such as hiring a taxi or limousine, or renting a rental car at the airport or local towns in order to tour the Park.

The Park is also endowed with a water transportation system. The Glacier Park Boat Company operates boat tours at Many Glacier, Lake McDonald, Two Medicine Lake, and St. Mary Lake (see Figure 4). Visitors use the boat tours to enjoy the scenery of the lakes as well as to access many backcountry trails. A summary of the tour length, fare, etc., is provided in Table 1.

Figure 4. Boat Tour at Two Medicine Lake

Table 1. Summary of Boat Tour Services

Boat Tour Location	Trip Length	Number of Departures Per Day	Fare*
Many Glacier	1 hr, 15 min.	5-6	$10 (adult), $5.00 (ages 4-12)
Lake McDonald	1 hr	4-5	$8.50 (adult), $4.25 (ages 4-12)
St. Mary Lake	1 hr, 30 min.	5	$10 (adult), $5.00 (ages 4-12)
Two Medicine	45 min.	4-5	$8.00 (adult), $4.00 (ages 4-12)

*Fares for all children under four are free.

Over the years, other types of Alternative Transportation Systems (ATS) or specialized shuttle systems were also considered or attempted. In 1992, a shuttle service was initiated to meet the needs of hikers, but demand was low. Some people believe that the shuttle system had not been effective because of high cost to users, limited capacity, and a limited schedule. Others think that the shuttle system worked well, but they would like to see its service and schedule expanded. A second proposal of building a light rail or cog rail system on the Going-to-the-Sun Road was also considered but rejected. The tracks and cables associated with these systems was determined to be incompatible with the historic appearance of the road and would have precluded private automobile use, which is historic and valued by visitors. Furthermore, such a development would require a substantial amount of space for a staging area for station location and for visitors to leave their vehicles in order to travel the Going-to-the-Sun Road by rail. The idea of using light rail or cog rail in areas adjacent to the Going-to-the-Sun Road was also considered, as was the idea of using alternate routes such as the Logan Creek Valley between Logan Creek and Logan Pass. All these ideas were also rejected because they would have required the intrusion of substantial development into natural areas of the Park that have not been disturbed and are now proposed for wilderness designation.

The current transportation systems are not subsidized. The Park hopes is to continue private vehicle use, as desired by the public, while ensuring an effective public transportation system(s) for all Park visitors.

3.0 ATS Needs

There is a need for an effective public transportation system at Glacier National Park. Some potential ATS applications include:

- A scheduled or demand response shuttle system that can provide Park-external access from the Amtrak station at East and West Glacier, Glacier Park International Airport near Kalispell, or nearby towns that have sufficient demand for such a service. Such a potential service would use 15-passenger vans with room for luggage storage and stop at major campgrounds, lodging or collection areas outside of the Park. Service can be coordinated with Amtrak and can vary according to visitor arrival times. Drop-offs at the Park should be focused at a few staging areas or main Park entrance/Visitor Centers such as West Glacier, Apgar, or St. Mary.

- A scheduled Park-internal shuttle system that can provide internal circulation for Park visitors. Services would operate between West Glacier and St. Mary, much like the current shuttle system. However, services can be expanded to include other destinations such as Many Glacier, Two Medicine, etc., as demand warrants. Headways should be frequent (30 minutes or less during the peak) to increase convenience and reliability to users. Vehicles should have bicycle racks and storage space. A staging area should also be developed at West Glacier and St. Mary in conjunction with the Park-internal and external shuttle system. Visitors can park their vehicles at staging areas at either end of the route and board the shuttle to explore different parts of the Going-to-the-Sun Road, as well as access different destinations within the Park.

Schedules can also be coordinated with the Park-external shuttle service to provide a seamless transfer experience for visitors arriving from locations outside of the Park.

Since the current concessionaire has the right to provide all transportation services at the Park, the NPS can work with the concessionaire to design and coordinate an effective ATS. Public funding can be sought to purchase additional new vehicles or provide some sort of subsidy to make the service more affordable to users. Some potential vehicle fleet combinations or options include:

1. Current fleet of reconditioned original red buses plus additional new red buses that are similar in style and color to the original buses (Glacier Park, Inc. has been in discussions with Ford Motor Corporation and PeterPan, Inc. to discuss the possibility of building new red buses with Ford chassis. The estimated cost per vehicle is $85,000.);

2. New modern shuttle van/buses with an open-air design with bicycle rack and storage space; or

3. A combination of the original red buses with a fleet of new modern shuttle van/buses.

4.0 Basis for ATS Needs

Currently, there is a lack of external connection to the Park. Visitors arriving at major transportation terminals near the Park (such as the Amtrak station) must make their own transportation arrangements to visit the Park. An external shuttle service to the Park would help reduce the total number of vehicles entering the Park and reduce demand on Park roadways and parking areas.

There is also a need for an effective Park-internal circulation system. The current shuttle system may not be adequate to satisfy future demand as visitation increases. Furthermore, service needs to be on a regular schedule in order to increase convenience and reliability to users.

Going-to-the-Sun Road often operates at or over capacity during peak visitation months. Since widening the road is not a viable option, there is a need to reduce automobile congestion on the road. ATS would help alleviate the need to increase roadway capacity and parking supply. Implementing ATS would also reduce environmental damage to sensitive areas along the road as a result of overuse by the private automobile.

There is also a need for staging areas for parking and shuttle services. The current parking capacity along the major attraction of the Park (Going-to-the-Sun Road) is not adequate. There is a need to reduce automobile traffic by getting visitors out of their private vehicles and onto public transit vehicles. This would require a need to develop staging areas for seamless intermodal transfers.

5.0 Bibliography

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6.0 Persons Interviewed

John Kilpatrick, Chief of Facilities Management, Glacier National Park

Dale Scott, President, Glacier Park, Inc.